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ZOOLOGY  
AND  
BOTANY  
OF  
NEW HOLLAND,  
AND  
THE ISLES ADJACENT.

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THE ZOOLOGICAL PART BY  
GEORGE SHAW, M. D. F. R. S. &c.  
THE BOTANICAL PART BY  
JAMES EDWARD SMITH, M. D. F. R. S. &c.

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*THE FIGURES BY J. SOWERBY.*

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LONDON:  
PRINTED BY J. DAVIS:  
PUBLISHED BY J. SOWERBY AND CO. NO. 2, MEAD PLACE, LAMBETH; MAY BE HAD AT  
NO. 42, PATERNOSTER ROW, AND OF THE TOWN AND COUNTRY BOOKSELLERS.



A  
S P E C I M E N  
OF THE  
B O T A N Y  
O F

*NEW HOLLAND,*

BY  
JAMES EDWARD SMITH, M. D. F. R. S.

MEMBER OF THE ROYAL ACADEMIES OF TURIN, UPSAL, STOCKHOLM AND LISBON;  
CORRESPONDENT OF THOSE OF MONTPELLIER AND DAUPHINY, &c. &c.

PRESIDENT OF THE LINNÆAN SOCIETY.

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*THE FIGURES BY JAMES SOWERBY, F. L. S.*

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"Tendebantque manus ripæ ulterioris amore." VIRG.

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V O L. I.

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L O N D O N:

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M.DCC.XCIII.



TO  
THOMAS WILSON, ESQ. F. L. S.

AT WHOSE PERSUASION  
THIS WORK WAS UNDERTAKEN,

AND  
ON WHOSE FRIENDLY COMMUNICATIONS  
IT IS FOUNDED,

THE FOLLOWING PAGES

ARE INSCRIBED

*BY THE AUTHOR.*



## P R E F A C E.

AN attempt to make the Public acquainted with some of the productions of a country of which they have lately heard so much, and in which they are now as a nation so deeply interested—a country too so extremely unlike all those best known to Europeans, cannot fail to be acceptable, however imperfect in its extent. The present work must be considered only as, what it pretends to be, a *Specimen* of the riches of this mine of botanical novelty. It may inform the cultivators of plants concerning what they have already obtained from New Holland, as well as point out some other things worthy of their acquisition in future. As the author intends it for the use of his countrymen and countrywomen, it is written in their own language—a language every day growing more universal, and which many circumstances now seem to point out as likely to become the most so of any modern one.

The

The essential characters alone are given in Latin, as well as in English. The figures are taken from coloured drawings, made on the spot, and communicated to Mr. Wilson by John White Esq. Surgeon General to the Colony, along with a most copious and finely-preserved collection of dried specimens, with which the drawings have in every case been carefully compared.

December 1793.





*Pittosporum scandens.*

## BILLARDIERA scandens.

*Climbing Apple-berry.*



## PENTANDRIA MONOGYNIA.

GEN. CHAR. *Petala* quinque, foliolis calycinis alterna. *Nectarium* nullum. *Stigma* simplex. *Bacca* supera, polyperma.

*Petals* five, alternate with the leaves of the calyx. *Nectary* none. *Stigma* simple. *Berry* superior, with many seeds.

SPEC. CHAR. B. pedunculis solitariis unifloris, foliis subhirsutis.

Flower-stalks solitary, single-flowered. Leaves somewhat hairy.

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AMID all the beauty and variety which the vegetable productions of New Holland display in such profusion, there has not yet been discovered a proportionable

tionable degree of usefulness to mankind, at least with respect to food. This is our first and most natural enquiry in a scene of such novelty; but it is an enquiry natural to all the lower orders of sensible beings, as well as to man. It may perhaps mortify his pride to think how much more quickly and certainly inferior animals judge upon such a subject. Their powers however reach no farther. It is the peculiar privilege of reasoning man, not only to extend his enquiries to a multiplicity of attainable benefits to himself and his species, besides the mere animal necessity of food, but also to walk with God through the garden of creation, and be initiated into the different plans of his providence in the construction and œconomy of all these various beings; to study their dependencies upon one another in an infinitely complex chain, every link of which is essential; and to trace out all those various uses and benefits to every branch of the animal creation, of which each animal is a judge only for himself. In this point of view no natural production is beneath the notice of the philosopher, nor any enquiry trifling under the guidance of a scientific mind.

In compliance however with those who do not look so deep into natural knowledge, we here introduce to their acquaintance almost the only wild eatable fruit of the country we are about to illustrate. It may serve as an olive-branch, to procure their patience as we proceed together hereafter through the consideration of

less

less conspicuously interesting objects. Nor will the scientific botanist find the plant before us unworthy of his most accurate attention.

Its genus is easily characterised in the Linnæan system by the many-seeded berry above the flower, and may stand somewhere between *Eccallonia* and *Mangifera*. We cannot certainly tell what genera are its natural allies, especially as we have no knowledge of the fruit and seeds except from a drawing. May it be akin to the *Capparides* of M. de Jussieu?

The name *Billardiera* is given it in honour of James Julian la Billardiere, M. D. F. M. L. S. now engaged as botanist on board the French ships sent in search of M. de la Peyrouse. His *Icones Plantarum Syriæ rariorum*, the fruits of a journey to the Levant in 1786, justly entitle him to such a distinction.

We have acquired two species of this genus from New South Wales. The root of the present is woody and zigzag, with a reddish inner bark. Stems several, twining among other shrubs, branched, woody, round, downy when young, destitute of leaves except on the young branches. Leaves alternate, sessile, lanceolate, bluntnish, mostly entire, but undulated and revolute in such a manner as to appear dentated, which they sometimes really are, paler beneath, slightly veined, most hairy when young. Stipule none. Flowers solitary, enveloped in long leaves, terminating the young branches, on short downy footstalks, drooping, of a pale lemon-colour, without

without *bracteæ*. *Calyx* regular, of five equal, narrow, pointed, leaves, hairy and ciliated. *Petals* five, twice as long, equal, lanceolate, pointed, attenuated at the base, inserted into the receptacle. *Stamina* five, as long as the calyx, and opposite to it, equal, subulate, smooth. *Antheræ* arrow-shaped. *Germen* altogether superior, oblong, very hairy. *Style* short, erect. *Stigma* simple. *Berry* cylindrical, yellow, very obtuse at both ends, downy, terminated by the permanent style, and said to have a very fine flavour, not unlike a roasted apple. *Seeds* numerous, horizontal, blackish.

#### EXPLANATION OF TAB. I.

- 1. Calyx. 2. A Petal. 3. Stamina and Pistillum.
- 4, 4. Ripe Fruit. 5, 5. Footstalks. 6. Seeds.





*Tetraspedium juncinum*

TETRATHECA *junccea.**Rushy Tetratheca.*OCTANDRIA MONOGYNIA. *Fl. complete.*

GEN. CHAR. *Cal.* quadrifidus, inferus. *Cor.* tetrapetala.  
*Capsula* bilocularis, bivalvis; valvulis medio septiferis.  
*Semina* subbina.

*Cal.* four-cleft, inferior. *Cor.* of 4 petals. *Caps.* of two cells and two valves, with the partition from their middle. *Seeds* about two in each cell.

SPEC. CHAR. *T.* glabra, foliis alternis lanceolatis, caule acutangulo, ramis elongatis nudiusculis.

Smooth. Leaves alternate, lanceolate. Stem with sharp angles. Branches elongated, and almost naked.

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TO this pretty genus, three species of which have been sent from New South Wales, we have given the name *Tetratheca*, on account of the curious structure of

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its

its *antheræ*, each of which consists of *four cells*, communicating with one common tube, the excretory duct of the pollen. In the construction of this name we run counter indeed to a precept of Linnæus (*Crit. Bot.* p. 44), and we do so because in that instance we think him in the wrong. After objecting, with reason, to generic names too similar in found to each other, he is somewhat unmerciful in stigmatizing almost all that have any syllables in common, and wonders at Vaillant for using the termination *theca* at all. The word surely in itself is unexceptionable; and as all the generic names of Vaillant constructed with it, even *Tetragonotheca* (which Linnæus at first retained), are now laid aside, and therefore there can be no ambiguity, we hope to be excused for adopting *theca*, as it so precisely suits our purpose.

*Tetratheca* probably belongs to M. de Jussieu's order of *Ericæ*, not indeed that it answers well to his characters of that order, but it is allied to some of its genera, especially *Pyrola*. All its species are small shrubs with red flowers (varying to white), which retain their colour when dried.

*Tetratheca juncea* has a small woody *root*, which has some appearance of that of an annual plant. The *stem* is much branched, even from the base; the *branches* alternate, long and slender, very acutely triangular, and almost winged. *Leaves* mostly small and not numerous, alternate, lanceolate, entire. *Stipulae* none. Each branch produces

produces a simple series of drooping *flowers*, in a racemosous order, on simple capillary red footstalks, with a small leaf at the base of each. *Calyx* deeply cloven, obtuse. *Petals* obovate, crimson, paler on the outside, entire. *Stamina* equal; the *filaments* very short; *antheræ* slightly curved, with four blunt angles, and four furrows, brown, tipped with a pale simple tube, into which the four cells of the *anthera* open. *Germen* very small, obovate, compressed. *Style* short and simple. *Capsule* pendulous, obovate, compressed, pointed. *Seeds* two in each cell, one above the other, cylindrical, standing on a white twisted pedicle.

Every part is smooth. We have specimens of a variety with white petals, but the calyx and footstalk remain red.

#### EXPLANATION OF TAB. II.

- 1. Calyx and Footstalk. 2. Petal. 3. Stamina.
- 4. A Stamen magnified. 5. The same cut acros.
- 6. Capsule. 7, 7. Seeds.







CERATOPELALUM *gummiferum*.*Three-leaved Red-gum Tree.*

## DECANDRIA MONOGYNIA.

GEN. CHAR. *Cal.* 5-partitus, staminiferus, persistens.*Petala* 5, pinnatifida. *Antheræ* calcaratæ. *Caps.* in fundo calycis, tecta, bilocularis.*Cal.* 5-cleft, bearing the stamina, permanent. *Petals* 5, pinnatifid. *Antheræ* with a spur. *Caps.* in the bottom of the calyx, covered, two-celled.

WHEN a botanist first enters on the investigation of so remote a country as New Holland, he finds himself as it were in a new world. He can scarcely meet with any certain fixed points from whence to draw his analogies; and even those that appear most promising, are frequently in danger of misleading, instead of informing him. Whole tribes of plants, which at first sight seem familiar to his acquaintance, as occupying links in Nature's chain, on which he has been accustomed to depend,

pend, prove, on a nearer examination, total strangers, with other configurations, other œconomy, and other qualities; not only all the species that present themselves are new, but most of the genera, and even natural orders.

The plant before us justifies the above remarks. Its botanical characters are so new, we can scarcely tell to what tribes it is allied; and although, from the peculiar felicity of the Linnæan sexual system, founded on parts which every plant *must* have, we are at no loss to find its class and order in that which is an artificial system, we still scarcely know what genera are its natural allies. It, however, seems most nearly related to *Dictamnus* and *Ruta*, of all the Decandria Monogynia, and may be safely inserted near them. We dare not positively say it belongs to M. De Jussieu's natural order of *Rutaceæ*, but for the present it may be so considered, till future discoveries shall authorise us to constitute a new one. The generic character above given certainly distinguishes it from all other genera, and the name applies to the very unusual horn-like divisions of the petals, like those in the leaves of the *Ceratophyllum* of Linnæus. One species only is already known.

This, Mr. White informs us, is one of the trees (for there are several, it seems, besides the *Eucalyptus resinifera*, mentioned in his Voyage, p. 231.) which produce the red gum. He further remarks, that it is the only wood of the country that will swim in water.

The

The tree is of a considerable height, upright, much branched, and of a beautiful appearance when the flowers are come to maturity, or rather about perfecting their seed, as in the specimen here figured. Every part is quite smooth. *Branches* opposite, round, slightly angular at the top. *Leaves* opposite, on footstalks, ternate. *Leaflets* sessile, nearly equal, lanceolate, obtuse, serrated, veiny, shining, paler beneath. *Stipule* none. *Panicles* terminal, first oppositely, and then alternately branched, with a small pointed glutinous bractea at the base of each partial flower-stalk. *Flowers* at first expanding small, but the calyx afterwards becomes much enlarged, whitish, tinged with red, and all their parts continue permanent till the fruit is ripe. The *Calyx* is inferior, five-cleft; its segments lanceolate, acute, slightly ribbed; its margin at the base of the segments surrounded with a ring bearing the petals and stamens, as in icofandrous plants. *Petals* alternate with its segments, at first equal to them in length, then much shorter, irregularly and unequally pinnatifid; their divisions linear and acute. *Stamens* shorter than the petals, awl-shaped. *Antheræ* roundish, of two oval cells, and with a spur at their base. *Germen* in the bottom of the calyx, globular, ten-ribbed. *Style* awl-shaped, short. *Stigma* cloven, acute. *Capsule* in form like the germen, small, with a coriaceous covering, originally two-celled, but one side seems always abortive, and the seed in the other pushes the partition from the centre.

We

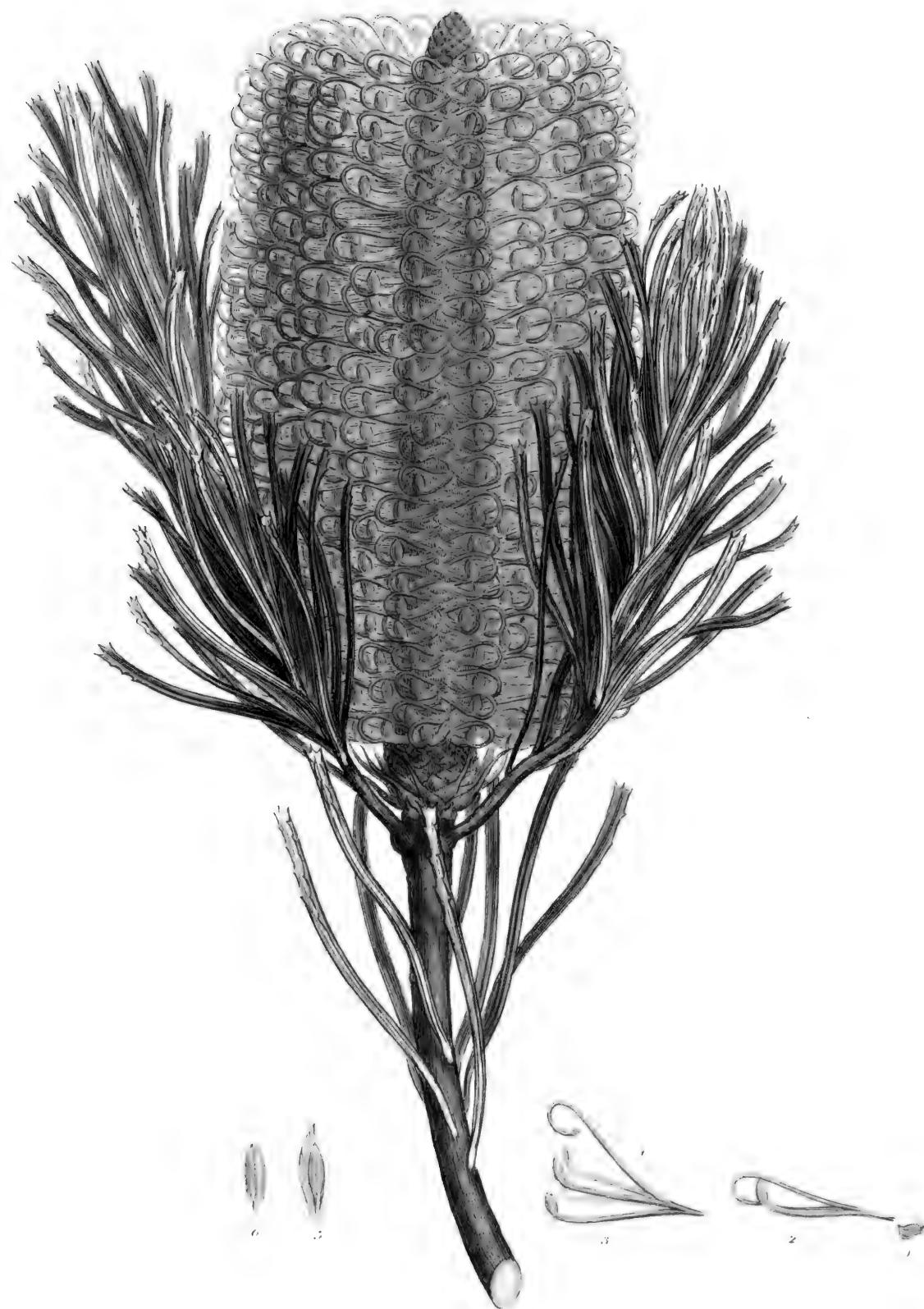
We have only seen the fruit half ripe, and the imperfect seeds were withered, but they appear to be solitary.

#### EXPLANATION OF TAB. III.

1. A bunch of young flowers, of their natural size.
2. The more advanced calyx laid open, with its petals and stamens in their proper situations.
3. A petal and stamen separate.
4. The same magnified.
5. Back of the filament and anthera.
6. Germen in a young state.
7. Its coriaceous covering.
8. Stigma.
9. Germen somewhat farther advanced, cut across to shew the cells.

T A B.





*Banksia spinulosa*

## BANKSIA spinulosa.

*Prickly-leaved Bankia.*

## TETRANDRIA MONOGYNIA.

GEN. CHAR. *Receptaculum commune elongatum, squamosum. Cor. tetrapetala. Stamina limbo inferta. Capsula bivalvis, disperma, interjecto feminibus differeimento mobili.*

*Common receptacle elongated, scaly. Cor. of 4 petals. Stamina inserted into the limb. Capsule with two valves, two seeds, and a moveable partition between them.*

SPEC. CHAR. *B. foliis linearibus revolutis mucronulatis apicem versus denticulato-spinosis.*

*Leaves linear, revolute, with a little sharp point, and with spinous denticulations towards the top.*

THIS hitherto non-descript species of *Bankia* has a woody branched stem, the *branches* commonly three or more together, curved upwards. *Leaves* irregularly scattered, closely covering the branches, on very short footstalks, but little spreading, from an inch and half to two inches in length, linear, very narrow, revolute in the margin, green and smooth above, white and downy beneath, ending very abruptly, tipped with

three little spines, and having several of the same kind hooked upwards, in the margin, particularly towards the top. The young leaves are very downy. *Flowers* thick set in a cylindrical erect spike, arising from the divarications of the branches. Their common receptacle is cylindrical, rather obtuse, covered with closely imbricated downy scales, some of the lowermost of which terminate in a long downy pointed arista, and from among the rest the flowers come out in pairs. The structure of the flower is well expressed in the annexed plate. We suspect the fruit figured in Mr. White's Voyage, page 225, fig. 1, may belong to this species, but we have no positive authority to assert it.

Our *Bankia spinulosa* differs from *B. ericæfolia* of Linnæus (*Herb. Linn.*) in having leaves at least four times as long, obtuse, but with a small central sharp point from the mid-rib between the other two terminal points, as well as in having a greater or lesser number of small sharp-hooked lateral teeth towards the end of each leaf.

The natives of New South Wales call it *Wattangre*.

#### EXPLANATION OF TAB. IV.

1. A scale of the receptacle.
2. A flower unexpanded.
3. The same expanded.
4. Stigma.
5. Tip of a petal magnified, shewing one of the stamens in its natural situation.
6. Stamen separate.

T A B.





## GOODENIA ramosissima.

*Branching blue Goodenia.*



PENTANDRIA MONOGYNIA. *Fl. of one petal, superior.*

GEN. CHAR. *Caps.* bilocularis, bivalvis, polysperma; dissepimento parallelo. *Semina* imbricata. *Cor.* supra longitudinaliter fissa, genitalia exserens; limbo quinquefido, secundo. *Antheræ* lineares. *Stigma* urceolatum, ciliatum.

*Caps.* with two cells, two valves, and many seeds; partition parallel to the valves. *Seeds* imbricated. *Cor.* longitudinally cloven on the upper side, exposing the organs of fructification; limb five-cleft, leaning one way. *Antheræ* linear. *Stigma* cup-shaped, ciliated.

SPEC. CHAR. G. foliis linear-lanceolatis subdentatis cauleque hispidis, stylo apice hirsutissimo, corolla extus pilosa.

F

Leaves

Leaves linear-lanceolate, slightly dentated, rough as well as the stem. Style very hirsute at the top. Corolla externally hairy.

SYN. *Goodenia ramosissima*. *Linn. Trans. Vol. II.* 349.

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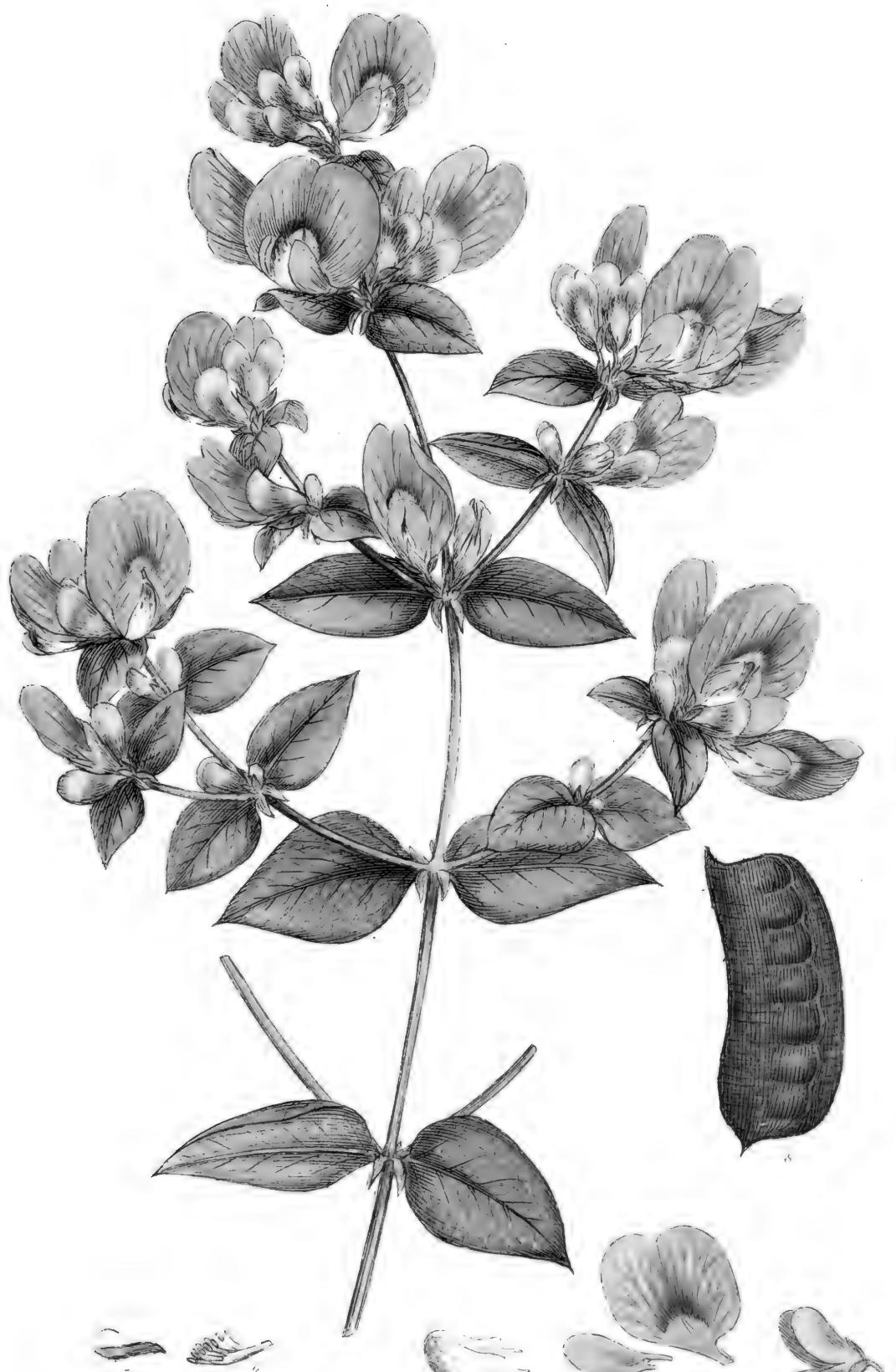
WE refer the reader to the Linnæan Transactions above quoted for the history of this genus, which is named in honour of the Rev. Dr. Goodenough. Eight species are there enumerated, of which this is one of the most striking.

The stem is herbaceous, two or three feet high, much branched and straggling, round, rough with short stiff hairs, as are also the *leaves*. The latter are of a narrow lanceolate form, mostly entire, but sometimes dentated, and even sinuated. *Stipule* none. *Flowers* solitary, terminating the branches, and appearing in October. The plaits of the *corolla* are externally hairy. The *antheræ* very minutely bearded. *Style* very hairy in its upper part. The *fruit* of this species we have not seen ripe, but the enlarged *germen* is oval and hairy.

#### EXPLANATION OF TAB. V.

- 1, 2. Two different views of the Style. 3. Stamen.
4. Anthera magnified.





*Plumbago jamaicensis*

## PLATYLOBIUM formosum.

*Orange Flat-Pea.*

DIADELPHIA DECANDRIA. *Stamina all connected together.*

GEN. CHAR. *Cal.* campanulatus, quinquefidus; laciniis duabus supremis maximis, obtusis. *Legumen* pedicellatum, compressum, dorso alatum, polyspermum.

*Cal.* campanulate, five-cleft; two upper segments very large and obtuse. *Pod* on a footstalk, compressed, winged along the back; seeds many.

SPEC. CHAR. P. foliis cordato-ovatis, germine piloso.

Leaves cordato-ovate. Germen hairy.

SYN. *Platylobium formosum.* *Linn. Trans. Vol. II.* 350.  
*Cheilococca apocynifolia.* *Salisb. Prod.* 412.



THIS genus may be found in the Linnæan Transactions along with the preceding, and it is needless to repeat the minute description there given of the species. It will be more useful to give the character of another species very lately received from New Holland, and which we at first considered as a variety of that here figured, but now believe them to be distinct.

PLATYLOBIUM parviflorum.

P. foliis lanceolato-ovatis, germine glabro.

Leaves lanceolato-ovate. Germen smooth.



THIS agrees with the preceding in habit, but the flowers are smaller and less beautiful; the leaves longer and narrower; the germen quite smooth.

Both these shrubs promise to be extremely ornamental to our greenhouses, as they produce abundance of bloom, and are among the most elegant of all their tribe.

EXPLANATION OF TAB. VI. P. formosum.

1. Calyx. 2. Bracteæ. 3. Standard. 4. One of the Wings. 5. Keel. 6. Stamina. 7. Germen. 8. Ripe pod.





*Embellicium spectabile*

London Published Oct 1 1803 by J. D. Murray & Co. 22 Strand.

## EMBOTHRIUM speciosissimum.

*Great Embothrium, or Waratāh.*



## TETRANDRIA MONOGYNIA.

GEN. CHAR. *Cor. tetrapetala. Stamina limbo inserta.*

*Folliculus polyspermus. Semina alata.*

*Cor. of 4 petals. Stamina inserted into the limb.*

*Follicle containing many winged seeds.*

SPEC. CHAR. *E. foliis obovatis obtusis inæqualiter ferratis, spicâ subcapitatâ, involucro polyphyllo.*

Leaves obovate, obtuse, unequally serrated. Spike somewhat capitate. Involucrum of many leaves.



THE most magnificent plant which the prolific soil of New Holland affords is, by common consent both of Europeans and Natives, the Waratāh. It is moreover a favourite with the latter, upon account of a rich honeyed juice which they sip from its flowers. Our figure was taken from a coloured drawing made from

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the wild plant, compared with very fine dried specimens sent by Mr. White. Only one garden in Europe, we believe, can boast the possession of this rarity, that of the Dowager Lady de Clifford, at Nyn Hall, near Barnet, who received living plants from Sidney Cove, which have not yet flowered. The seeds brought to this country have never vegetated.

The shrub is 8 or 10 feet in height, with several wand-like simple round branches, covered with a smooth brown bark, and clothed with numerous large alternate leaves, without stipulæ. These *leaves* are from 4 to 6 or 8 inches long, obovate, not broad, blunt, but tipped with a small point, smooth and veiny, paler and even glaucous beneath, more or less serrated in their upper part with sharp unequal teeth, entire, and very much attenuated at the base, running down into a short rusty-coloured footstalk. A very dense simple spike or head of *flowers*, appearing in October, terminates each branch, surrounded at the base with an *involucrum* of many large lanceolate acute leaves, of a most splendid crimson, downy on their upper side. The flowers are very thickly set round a conical receptacle, each on its own footstalk of half an inch in length. The *petals* cohere together at their base, except at the back of the flower, where the style separates them early. The *antheræ* are reniform, slightly pedicellated, sheltered by a concavity in the tip of each petal. *Germen* pedicellated. *Style* incurved. *Stigma* large, obtuse. *Fruit* a coriaceous follicle, or pouch of one piece, cylindrical, smooth, recurved,

recurved, splitting longitudinally along its upper edge, and containing many flattened *seeds*, each furnished with a membranous lanceolate wing.

EXPLANATION OF TAB. VII.

1. A flower fully expanded.
2. Antheræ.
3. Germen.
4. Stigma.
5. Follicle.
6. Seeds.

All of their natural size.







*Embothrium* *siliculosum*

EMBOTHRIUM *filaifolium*.*Cut-leaved Embothrium.*

## TETRANDRIA MONOGYNIA.

GEN. CHAR. See Tab. 7.

SPEC. CHAR. E. foliis tripinnatifidis: laciniis decurrentibus acutis, floribus spicatis geminatis pedicellatis.

Leaves tripinnatifid; segments decurrent, acute.  
Flowers spiked, standing in pairs, on footstalks.

OF this new and very singular species of *Embothrium* a plant brought from New Holland flowered last summer, for the first time, at Meffrs. Grimwood's at Kensington, from which our figure was drawn; the fruit only was taken from native specimens.

The *root* is perennial, and prefers a light sandy soil. *Stems* somewhat shrubby, 3 or 4 feet high, erect, but little and alternately branched, round, slightly striated, leafy.

leafy. *Leaves* alternate, on longish footstalks, spreading, smooth, thrice divided into narrow, decurrent, sharp, entire segments, sometimes three-cleft, of a dark green colour, and firm rigid substance, much resembling the leaves of *Peucedanum Silaus*. The upper and lowermost are more simple. *Flowers* inodorous, in a long, loose, terminal, simple spike; standing in pairs, back to back, each on its proper footstalk, with one lanceolate sharp bractea in common to the two. *Petals* white, much spreading, and revolute at the tip. *Antheræ* two-lobed. *Germen* with three remarkable glands at the base of its footstalk in front. *Style* much incurved. *Follicle* oval, slightly carinated. The *seeds* we have not seen, but they should seem to be very few.

#### EXPLANATION OF TAB. VIII.

1. Corolla, the natural size.
2. Anthera.
3. Glands.
4. Germen.
5. Stigma.
6. Follicle after its seeds are discharged.





*Eulittorina varicosa.*

## EMBOTHRIUM fericum.

*Silky Embothrium.*



SPEC. CHAR. E. foliis ternatis integerrimis revolutis  
subtus sericeis, spica recurva, fructu tuberculato  
glabro.

Leaves ternate, entire, revolute, silky beneath. Spike  
recurved. Fruit tuberculated, not downy.



THIS shrub is said to form a bush four or five feet in height. Our knowledge of it is entirely from dried specimens and drawings, for it has not yet been raised from any seeds brought to Europe. In New South Wales it should seem to be not uncommon, flowering in October.

The *root* is perennial, thick and woody. *Stem* very much branched even from the bottom, round, the

younger branches angular, and clothed with fine silky down, as are likewise the flower-stalks, corollæ, and backs of the leaves. The *leaves* are for the most part ternate, covering the branches without any order, nearly sessile, the uppermost, or those which grow on the weaker branches, being simple. Their form is mostly elliptical, sometimes linear, always tipped with a minute very sharp point, entire, revolute, three-nerved, and veiny, the lateral nerves running in a very peculiar manner very near the margin and along the sharp edge made by its being turned in; upper surface bright green, smooth, and naked. *Stipulæ* none. *Spikes* terminal, solitary, short and dense, recurved, simple. *Flowers* on shortish, alternate, solitary, simple footstalks, all directed upwards, without *bractæ* or *involucra*. *Corolla* rose-coloured, silky without, clothed partly with very dense erect hairs within, and split about half way down into four segments. *Antheræ* small, yellowish, sessile in the hollow tips of the corolla, as in other species of this genus. *Germen* oval, green; *Style* smooth, red; *Stigma* hemispherical, smooth. *Follicle* oval, black, tuberculated, destitute of hair or down, brown within. *Seeds* two, flattish, attached by a very short wing to the upper end of the follicle.

There are three very remarkable varieties of this species, viz.

*α minor.* This is its most frequent appearance, and is what we have principally represented in the figure.

$\beta$  major. In all its parts twice as large, and somewhat less silky.

$\gamma$  angustifolia. With very long and linear leaves, and flowers like var.  $\alpha$ .

From the most attentive consideration it appears these, however different in appearance and even in the figure of their leaves, are really not specifically distinct.

#### EXPLANATION OF TAB. IX.

1. A Branch of var.  $\alpha$ .
2. A Flower.
3. Half-ripe Fruit.
4. A Seed.
5. Leaves of var.  $\beta$ .
6. Ditto of  $\gamma$ .







*Eulophia gracilis.*

**EMBOTHRIUM buxifolium.***Box-leaved Embothrium.*

SPEC. CHAR. E. foliis ellipticis integerrimis revolutis supra scabris subtus pubescentibus, floribus umbellatis, fructu villoso.

Leaves elliptical, entire, revolute, rough above, downy beneath. Flowers in umbels. Fruit downy.



THIS, like the preceding species, is hitherto a stranger to our gardens. In its native country it flowers about November.

Root knobbed and woody. Stem much branched, three or four feet high; the branches round, clothed with harsh down, and thickly covered with very numerous alternate solitary leaves, about the size of those of box, almost sessile, elliptical, with a little sharp point, entire, revolute, but destitute of the lateral nerves observable in *E. sericeum*, veiny, dark green, very rough

above, with minute prominent tubercles, downy beneath. *Stipulae* none. *Flowers* numerous, in solitary terminal erect umbels, without *involucra*. *Flower-stalks* simple, round, thickly clothed with reddish brown hairs. *Corolla* clothed externally with the same coloured hairiness as the flower-stalks, and internally with white; its four segments cohere together, so that their four cells form one common cavity, destitute of hair, and of a brown colour, in which stand, in the form of a star, the four yellowish *antheræ*, each of two cells. *Germen* oval, with a gland at its base, very hairy, as is the *style*; *stigma* lateral, a little below the pointed apex of the style, prominent, blackish, not hairy, rugged. *Follicle* ovate, gibbous, black, covered with white hair. *Seeds* two, each attached by a very short wing.

#### EXPLANATION OF TAB. X.

1. A Flower separate.
2. The same with the segments of its Corolla forcibly divided.
3. Anthera.
4. Pistillum.
5. Gland at the base of the Germen.
6. Ripe Fruit.
7. A Seed.





*Pimelea linifolia*

## PIMELEA linifolia.

*Flax-leaved Pimelea.*

DIANDRIA MONOGYNIA. *Fl. inferior, of one petal, regular.*

GEN. CHAR. *Cal.* nullus. *Cor.* quadrifida. *Stamina* fause inserta. *Nux* corticata, unilocularis.

*Cal.* none. *Cor.* four-cleft. *Stamina* inserted into the orifice. *Nut* coated, of one cell.

SPEC. CHAR. *P.* foliis lineari-lanceolatis, capitulis terminalibus involucratis, corolla extus villosa.

Leaves linear-lanceolate. Heads of flowers terminal, furnished with an involucrum. Corolla hairy on the outside.



THIS elegant shrub flowered in the greenhouse of Lord Viscount Lewisham, in February 1794. The same

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1794

species flowered the preceding year at Sion House. It is a native of the coast of New South Wales, among rocks, as we believe are all the species of *Pimelea*. The genus was first published by Forster in his *Nova Plantarum Genera*, and there called *Bankia*; but every species of which it is composed having been referred by the younger Linnæus to *Pafferina*, and he having in the same work named another tribe of plants after Sir Joseph Banks, Gærtner, in restoring the original genus of Forster, adopted the name of *Pimelea* from the manuscripts of Dr. Solander. It is derived from  $\pi\mu\epsilon\lambda\eta$ , fat, but is rather a pleasantly sounding, than a very apt denomination, unless there may be any thing oily in the recent fruit. In natural affinity *Pimelea* nearly approaches *Pafferina* and *Daphne*, but their number of stamens being so very different, surely justifies us in keeping it separate from them. In this natural order we are not yet indeed quite clear upon what principles genera ought to be discriminated, and therefore dare not undertake to remove the great uncertainty in which all authors have left them.

*Pimelea linifolia* has a small zigzag root, from which arises a straight round smooth upright stem, branched irregularly for the most part, though sometimes appearing dichotomous, in consequence of the young branches springing in pairs from the upper part of the old flowering ones. The bark is reddish, cracking longitudinally; its inner layer remarkably silky, which is

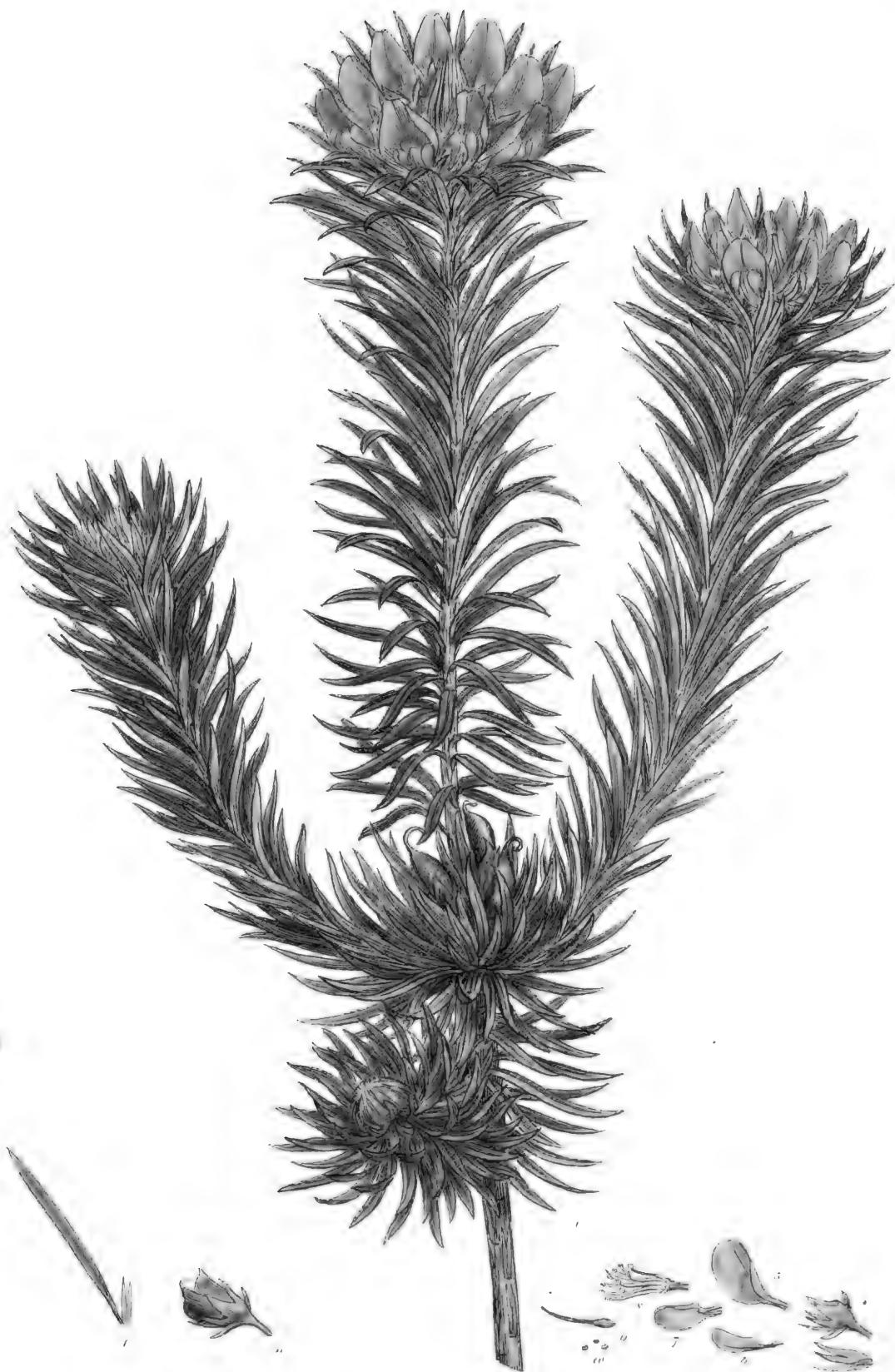
characteristic of this natural order. *Leaves* clothing the younger branches, opposite, on very short footstalks, slightly spreading, linear-lanceolate, varying much in breadth, sharpish, entire, with a simple nerve. *Stipulæ* none. *Flowers* in terminal heads, numerous, inodorous. *Bractæ* four broad ovate entire leaves, close to the flowers. *Corolla* very slender, tubular, snow-white, silky externally; the *limb* in four equal ovate spreading segments, with a red spot at the base of each withininside. *Stamina* two, their filaments rather shorter than the limb, and inserted into the base of two of its segments, so that they are altogether without the tube, and not within it as in *Daphne*, *Pafferina*, &c; *antheræ* oblong, yellow. *Germen* superior, oval, green, very small, smooth; *style* rather longer than the tube, simple and capillary; *stigma* capitate, very small. *Fruit* a small oval dry berry or rather *drupa*, invested with the permanent base of the corolla, and containing a solitary hard seed or nut. *Common receptacle* clothed with numerous white permanent hairs.

#### EXPLANATION OF TAB. XI.

1. A Flower entire.
2. The same opened, to shew the stamens and style.
3. Pistillum.
4. Common receptacle after the fruit has fallen.
5. Fruit invested with the permanent base of the corolla.
6. Fruit naked.







*Suttoria atopalurus*

## PULTENÆA stipularis.

*Scaly Pultenæa.*



DECANDRIA MONOGYNIA. *Fl. of many unequal petals.*

GEN. CHAR. *Cal.* quinquedentatus, utrinque appendiculatus. *Cor.* papilionacea: alis vexillo brevioribus. *Legumen* uniloculare, dispermum.

*Cal.* five-toothed, with an appendage on each side. *Cor.* papilionaceous; the wings shorter than the standard. *Pod* of one cell, with two seeds.

SPEC. CHAR. *P.* foliis linearibus mucronulatis subciliatis, stipulis solitariis binerviis laceris.

Leaves linear, tipped with a small point, slightly ciliated. Stipulæ solitary, two-nerved, lacerated.



NEW Holland abounds with papilionaceous plants, mostly belonging to new genera, and many of them having perfectly distinct stamens, which therefore can

by no means be admitted into the class *Diadelphia*, but must come next to *Sophora* in that of *Decandria*. The plant before us is one among several species which constitute one of the most distinct of these genera, and to which we have given the name of *Pultenæa* in order to commemorate the merits of a very amiable and deserving English Botanist, Dr. Richard Pulteney, F. R. and F. L. S, of Blandford in Dorsetshire, well known by his *Sketches of the Progress of Botany in England*, and more especially by his *Biography of Linnaeus*.

This genus differs materially from the true *Sophoræ*, in having a roundish pod of one cell, and only two seeds, instead of a long many-seeded pod divided into numerous cells; and although many of the Cape *Sophoræ* do indeed approach *Pultenæa* in their fruit, the last mentioned genus is essentially distinguished from them, and all others we have hitherto seen, by the two appendages to the calyx, affixed either to its base or sides.

We received a living specimen of this plant from Mr. Alexander Murray, gardener to Benjamin Robertson, Esq. at Stockwell, who raised it late in the autumn of 1792 from seeds brought from New South Wales. It first flowered in April 1794.

The stem is shrubby, variously branched, round; the wood hard and whitish; bark brown, covered more or less with withered bristly *stipule*: branches long and straight, pointing upwards, clothed with leaves, and terminated by round heads of handsome yellow inodorous flowers. The leaves surround the branches in great

numbers without any regular order, and are linear, very narrow, tipped with a little sharp point, entire, smooth, without any projecting vein or nerve, most frequently ciliated with fine stiff hairs. *Footstalks* very short, pale and smooth, erect at night, by which the leaves become closely pressed to the branch, and imbricated one over the other, though in the day time, and especially in bright sunshine, they spread horizontally. The very remarkable *stipulae* stand solitary just above the insertion of each footstalk, erect, and close-pressed to the branch, whose bark they by that means completely conceal; they are brown, of a chaffy texture, lanceolate, cloven and sometimes laciniated, furnished with two parallel nerves. The *flowers* are about twenty or more, in a round head, among spreading leaves, and the branch they at first terminate is at length sometimes protruded beyond them, by which they become verticillate; each stands on a short, round, smooth flowerstalk, with *bractæ* like the leaves, but smaller, and likewise accompanied with *stipulæ*. *Calyx* slightly campanulate, red, divided half way down into five acute, spreading, ciliated teeth, of which the two uppermost are the shortest and broadest; between them and the next pair stand the two appendages which make a material part of the generic character, and which agree exactly in appearance with the proper teeth, except in being somewhat narrower, and inserted, one on each side, about half way down the entire part of the calyx, to which their lower end is closely applied, so that they make the calyx appear to

have seven teeth of equal length. *Corolla* of five petals. *Standard* with a firm horizontal claw, its limb erect, round, slightly notched, the two sides generally folded together, deep yellow, with a red semicircular line near the base. *Wings* nearly linear, obtuse, concave, with a large tooth at the base, deep yellow, horizontal, much shorter than the standard. *Keel* of two pale yellow, obovate, concave petals, as long as the wings, strongly connected by their lower edge, and with a tooth near their base on the upper. *Stamina* all nearly equal, somewhat shorter than the keel, a little declining; *filaments* inserted into the receptacle, cylindrical, tapering to a point; *antheræ* small, roundish. *Germen* small, green, oval, smooth, tipped with a tuft of white hair, and containing the rudiments of two or three seeds; *Style* longer than the stamens, subulate, recurved, smooth; *Stigma* acute. *Pod* scarcely longer than the calyx, roundish, pointed, turgid, brown, hairy at the extremity, of one cell, containing two *seeds* on short footstalks, inserted into the upper edge of each valve near the base.

The plant appears to abound with mucilage, especially the leaves.

#### EXPLANATION OF TAB. XII.

1. A Leaf with its stipula.
2. Floral leaf and the stipula which accompanies it.
3. Calyx.
4. Its appendages.
5. Standard.
6. A Wing.
7. Keel.
8. Stamina and Pistillum.
9. Pistillum alone.
10. Rudiments of Seeds.
11. Pod invested with the permanent calyx.





*Eucalyptus robusta*...

## EUCALYPTUS robusta.

*Brown Gum Tree, or New Holland Mahogany.*



## ICOSANDRIA MONOGYNIA.

GEN. CHAR. *Cal.* superus, perfistens, truncatus, ante anthesin tectus *operculo* integerrimo, deciduo. *Cor.* nulla. *Caps.* quadrilocularis, apice dehiscens, polysperma.

*Cal.* superior, permanent, truncated, covered before flowering with an entire *lid*, soon falling off. *Cor.* none. *Caps.* of 4 cells, opening at the top, containing many *seeds*.

SPEC. CHAR. *E.* *operculo* conico medio constricto, umbellis lateralibus terminalibusque; pedunculis pedicellisque compressis.

Lid conical, contracted in the middle. Umbels lateral and terminal: general and partial flower-stalks compressed.



THE genus of *Eucalyptus*, established by the celebrated French botanist M. L'Héritier, of whose fate amid the present dreadful convulsions of his country we have

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for some time been ignorant, was first published in the *Hortus Kewensis*, vol. 2. 157. The original species there mentioned is named *obliqua*, and a figure of it is given in M. L'Heritier's *Sertum Anglicum*, tab. 20; but the description has not yet appeared. Having lately received specimens from New South Wales of five more very distinct species, we shall now attempt to characterize them, first describing more fully that exhibited in our plate.

*Eucalyptus robusta* is one of the largest and loftiest of trees, frequently 100 feet in height; its wood hard, heavy and strong, of a reddish colour, and abounding with resin. *Branches* round below, covered with smooth bark, very angular towards the extremity. *Leaves* alternate, on footstalks, firm, smooth, with a strong rib and fine parallel veins, ovate, pointed, entire, generally oblique, and often a little unequal at the base, but not universally so. *Stipulae* none. *Umbels* on flower-stalks, frequently from the axillæ of the leaves, and solitary, sometimes two or more together, forming a sort of alternate *racemus*, and sometimes such *racemi* terminate the branches. *Bracteæ* none. *General flower-stalk* an inch or more in length, compressed, two-edged, dilated upwards; *partial ones* about eight or ten together, nearly of the same form, but much shorter, single-flowered, dilated into the base of the calyx. *Flowers* yellowish, occasionally with a red tinge. *Calyx* obconical, sometimes round, often two- or even four-edged, entire; *lid* rather more than equal to it in length, swelling above the base, then suddenly con-

tracted, and terminating in a blunt, slightly curved, conical point. When the lid falls off, it discloses numerous *stamina*, which soon spread very wide. The *style* stands on four cross ribs in the centre of the flower, which crown the *germen*; it is club-shaped, compressed or angular; *stigma* simple; *germen* in the bottom of the calyx. We have not seen the fruit ripe. Every part of this plant, and indeed of every other *Eucalyptus* we have examined, is void of all pubescence. This is not so highly aromatic as some other species, though very perceptibly so when rubbed, and it is likewise astringent and acrid. Its resin is an inferior sort of red gum, of a brown hue. The size and strength of the tree, like that of the European *Quercus Robur*, seem peculiarly to justify the name *robusta*.

#### EXPLANATION OF TAB. XIII.

1. 1. A young flower. 2. Calyx. 3. Lid. 4. Stamina not full grown. 5. A complete stamen. 6. Style.

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#### CHARACTERS OF SOME OTHER SPECIES.

2. *E. tereticornis*, operculo conico tereti lœvissimo calyce triplo longiori, umbellis lateralibus solitariis.  
Lid conical, round, very smooth, thrice as long as the calyx. Umbels lateral, solitary.

The *lid* of this species is remarkably smooth and polished, not wrinkled even in the dry specimen ; it often breaks off a little above the base, leaving its thin lower part like a loose ring round the *calyx*. The *leaves* are lanceolate.

3. *E. capitellata*, operculo conico calyceque angulofo subancipiti, capitulis lateralibus pedunculatis solitariis.

Lid conical, and, as well as the calyx, angular, and somewhat two-edged. Heads of flowers lateral, solitary, on flower-stalks.

The *leaves* are ovato-lanceolate, firm, astringent, but not very aromatic. We have seen no other species in which the *flowers* stand in little dense heads, each flower not being pedicellated so as to form an umbel. The *lid* is about as long as the *calyx*. *Flower-stalk* compressed, always solitary and simple.

The fruit of this species, standing on part of a branch whose leaves are fallen off, is figured in Mr. White's *Voyage*, page 226, along with the leaves of the next species.

4. *E. piperita*, operculo hemisphærico mucronulato, umbellis lateralibus subpaniculatis solitariis; pedunculis compressis, ramulis angulatis.

Lid hemispherical, with a little point. Umbels lateral, somewhat paniculated, or solitary ; flower-stalks compressed. Young branches angular.

SYN. *E. piperita*, *White's Voy.* p. 226, figure of the leaves only.

A fine essential oil, much like that of Peppermint, is obtained from this species, and every part of the dried plant exhales the same odour when rubbed.—We are now convinced this is distinct from the following, having compared the flowers of both. At the same time we have observed the minute white spots on the leaves (*White's Voy.* 228.) in *E. piperita*, as well as in the other.

5. *E. obliqua*, operculo hemisphærico mucronulato, umbellis lateralibus solitariis; pedunculis ramulisque teretibus.

Lid hemispherical, with a little point. Umbels lateral, solitary: flower-stalks and young branches round.

SYN. *E. obliqua*, *Ait. Hort. Kew.* v. 2. 157. *L'Herit. Sert. Angl.* t. 20.

From the only specimen we have seen of this, which is in Sir Joseph Banks's herbarium, it appears the branches are all round to the very top. *General flower-stalks* round, the *partial ones* only slightly angular, not compressed. *Bark* rough from the scaling off of the cuticle, but this may be an unnatural appearance. *Leaves* ovato-lanceolate, aromatic, but without the flavour of peppermint.

6. *E. corymbosa*, operculo hemisphærico mucronulato, umbellis corymbofo-paniculatis terminalibus.

Lid hemispherical, with a little point. Umbels panicled in a sort of terminal corymbus.

This, when in flower, is the most magnificent of its genus. The *leaves* are lanceolate, astringent and acrid, but scarcely at all aromatic. *Flower-stalks* all compressed. *Lid* somewhat membranous.

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All the species are destitute of hairiness or pubescence, the *leaves* simple, lanceolate, or ovato-lanceolate, pointed, entire, most frequently oblique, and often unequal at the base, on angular *footstalks*, without *stipulae*. *Stamina* very numerous. *Style* and *stigma* simple.

There seems to be another species in the gardens, with narrow leaves, the young ones of a rich purple, but its flowers are as yet unknown.





*Strophocarpus tubiferus.*

Engraved, London, 1795. by J. Sowerby, at 192, Albion Place, Liverpool.

## STYPHELIA tubiflora.

*Crimson Styphelia.*

PENTANDRIA MONOGYNIA. *Fl. inferior, of 1 petal,*  
*with seed-vessels.*

GEN. CHAR. *Cal. imbricatus. Cor. tubulosa. Stam.*  
*fauci inserta. Drupa quinquelocularis. Semina bina.*

*Cal.* imbricated. *Cor.* tubular. *Stam.* inserted into  
 its orifice. *Drupa* of 5 cells, with 2 seeds in each.

SPEC. CHAR. *S. corolla clavata longissima: limbo revolute hirsuto, floribus axillaribus solitariis, foliis obovato-linearibus.*

Corolla club-shaped, very long; limb revolute and hairy. Flowers axillary, solitary. Leaves linear, slightly obovate.



IT has lately been a complaint among cultivators of plants, that the vegetable productions of New Holland,

however novel and singular, are deficient in beauty. We do not think the censure by any means just in general; and if it were so, the shrub here delineated might atone for a multitude of unattractive ones, by its own transcendent elegance, as well as by its resemblance to the favourite *Erica tubiflora*. We hope it will one day be introduced into our gardens, and remain a perpetual afferter of the botanical honour of its country.

Our figure is taken from a drawing, obligingly communicated by the late Major Ross, and assisted by very magnificent specimens from Mr. White. This species escaped the observation of Sir Joseph Banks and Dr. Solander, though several others of the same genus, which is an extensive one, were brought to Europe by them, as well as by Dr. Forster. The latter confounded the genus with his *Epacris*, as did the younger Linnæus after him; a mistake which Gærtner corrected, and called our *Styphelia* by the name of *Ardisia*; but that denomination having been previously given by Dr. Swartz and Mr. Aiton to another plant, we adopt Dr. Solander's original name, *Styphelia*, derived from *συφέλις* harsh, hard or firm, expressive of the habit of the whole genus, and indeed of the whole natural order.

This shrub forms a thick bush, two or three feet in height, variously branched, firm and rigid in all its parts; the *branches* round, downy when young. *Leaves* scattered, sessile, spreading, of a narrow obovate figure, entire, tipped with a spine, smooth, marked with many

parallel veins beneath. *Stipule* none. *Flowers* about the middle of the branches, axillary, solitary, spreading, on very short, downy *flower-stalks*, furnished with two or three minute, pungent, downy *bracteæ*. *Calyx* imbricated, smooth, striated, pungent; the five innermost leaves lanceolate, nearly equal; the three, four or five outer ones much shorter, broader, and gradually less. *Corolla* four times as long as the calyx, crimson, tubular, swelling upwards, externally smooth, internally very hairy, especially just above the base; *limb* in five linear, revolute, hairy segments. *Stamina* alternate with those segments, and inserted at their base, projecting, simple, smooth; *antheræ* versatile, incumbent. *Germen* small, globular, furrowed, smooth, invested at the base with a sort of entire membrane, probably the *nectarium* of Solander; *Style* capillary, longer than the stamens; *stigma* small, obscurely notched, smooth. *Fruit* an oval smooth *drupa*, which we have only seen half-ripe, but in that state it plainly exhibited the generic character.

#### EXPLANATION OF TAB. XIV.

1. Flower-stalk, bracteæ and calyx.
2. Calyx leaves.
3. A flower opened.
4. A magnified stamen.
5. Germen magnified, with its membrane.
6. Half-ripe fruit of its natural size.

The other species which we have been able with certainty to determine, though we have incomplete specimens, or drawings, of several more, are

2. *S. ericoides*, corollæ limbo patente hirsutissimo, racemis axillaribus brevissimis erectis, foliis lanceolato-ellipticis revolutis.  
Limb of the corolla spreading, very hairy. Clusters axillary, very short, erect. Leaves elliptical, somewhat lanceolate, revolute.
3. *S. frigosa*, corollæ limbo patente imberbi: fauce pilosa, racemis axillaribus terminalibusque brevissimis erectis, foliis subulatis.  
Limb of the corolla spreading, naked; the orifice hairy. Clusters axillary and terminal, very short, erect. Leaves awl-shaped.
4. *S. scoparia*, corollæ limbo concaviusculo imberbi, racemis axillaribus brevissimis recurvis, foliis linear-lanceolatis.  
Limb of the corolla somewhat concave, naked. Clusters axillary, very short, recurved. Leaves linear-lanceolate.
5. *S. daphnoides*, corollæ limbo patente subpubescenti, floribus axillaribus solitariis, foliis ellipticis concaviusculis.

Limb of the corolla spreading, slightly downy. Flowers axillary, solitary. Leaves elliptical, a little concave.

6. *S. lanceolata*, corollæ limbo revoluto hirsuto, racemis aggregatis terminalibus, foliis linear-lanceolatis. Limb of the corolla revolute, hairy. Clusters aggregate, terminal. Leaves linear-lanceolate.

SYN. *Epacris juniperina*, *Linn. Suppl.* 138.

— *fasciculata*, *Forst. Prod.* 13. *Gen.* 10.

*Ardisia acerosa*, *Gaertn. Sem. vol.* 2. *78. t.* 94. *f. 2?*

This in good fair specimens has no resemblance to Juniper, and the term *acerosa* is applicable to almost every species, as is that of *fasciculata* likewise to the following. We have therefore been obliged to find a name which might not mislead.

7. *S. elliptica*, corollæ limbo patente imberbi, racemis aggregatis subterminalibus, foliis lanceolato-ellipticis.

Limb of the corolla spreading, naked. Clusters aggregate, mostly terminal. Leaves elliptical, somewhat lanceolate.

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All these species have the leaves tipped with a sharp point, which in *S. daphnoides* is less pungent than in the rest.







*Mimasa myrtifolia.*

## MIMOSA myrtifolia.

*Myrtle-leaved Mimosa.*

## POLYGAMIA MONOECIA.

**GEN. CHAR.** Hermaphr. *Cal.* quinquedentatus. *Cor.* quinquefida. *Stam.* 5 five plura. *Pist.* 1. *Legumen.* Masc. *Cal.* *Cor.* *Stam.* ut in hermaphr.

Hermaphrodite fl. *Cal.* five-toothed. *Cor.* five-cleft.  
*Stam.* 5 or more. *Pist.* 1. Fruit a *pod*.  
 Male, *Cal.* *Cor.* and *Stam.* like the hermaphr.

**SPEC. CHAR.** M. foliis simplicibus elliptico-lanceolatis obliquis margine cartilagineis integerrimis, capitulis axillaribus racemosis, leguminibus linearibus margine incrassatis.

Leaves simple, elliptico-lanceolate, oblique, entire, cartilaginous in the margin. Heads of flowers in axillary racemi. Pods linear, with a thick edge.

**SYN.** *Mimosa myrtifolia.* *Trans. of Linn. Soc.* v. 1. 252.

THIS shrub is now not uncommon in our green-houses, having been raised in plenty from seeds brought from Port Jackson. It generally bears its fragrant flowers late in the autumn, and might then at first sight be sooner taken for a *Myrtus* than a *Mimosa*.

It grows to the height of three or four feet, the *branches* alternate, upright, angular, with a very tough, smooth *bark*. *Leaves* of the young seedlings in pairs, pinnated; their leaflets oval: but when the stem rises, the common footstalks of its leaves become dilated, the leaflets cease to appear, and the whole shrub is ever after furnished with such dilated naked footstalks, which we beg permission to call leaves, because they undoubtedly to all intents and purposes are so; these are alternate, vertical, lanceolate, narrow at each extremity, tipped with a little sharp point, entire and cartilaginous in the margin, smooth, firm, glaucous. *Stipulae* none. On their upper edge near the base is a small concave gland. *Racemi* axillary, solitary, erect, of about six alternate heads, each of three or four small white *flowers*, whose *calyx* has only four segments, and the *corolla* four petals. The *stamina* are very numerous. *Germen* roundish; *style* and *stigma* simple. *Pod* linear, pointed, zigzag, brown, with a very thick margin. *Seeds* about six, oblong.

#### EXPLANATION OF TAB. XV.

1. A flower in front.
2. The same seen behind, magnified.
3. A stamen.
4. Germen, natural size and magnified.
5. Pod open, natural size.
6. A seed.





*Mimosa hispida.*

## MIMOSA hispidula.

*Little harsh Mimosa.*



SPEC. CHAR. M. foliis simplicibus ellipticis obliquis  
utrinque margineque scabris, ramulis hispido-  
pubescentibus, capitulis solitariis.

Leaves simple, elliptical, oblique, rough on each side  
and at the margin. Young branches clothed with  
short harsh down. Heads of flowers solitary.



A more extraordinary *Mimosa* than even the preceding. We know no other species that has so much asperity about it; certainly every other simple-leaved one yet discovered is perfectly smooth. It has not appeared in the gardens, nor were any specimens sent till last year.

It seems to form a thick rigid bush, the *branches* numerous, alternate, spreading, round, very rough with a short, dense, rigid pubescence, especially when young. *Leaves* alternate, apparently vertical, sessile, elliptical, oblique, pointed, entire, extremely harsh with minute,

prominent, scattered points, especially on the rib and the cartilaginous margin, so that they might be called denticulate. *Stipulae* in pairs, very minute, triangular, membranous. *Flowers* pale yellow, many together in little round heads, which stand solitary, on rough axillary *flower-stalks* shorter than the leaves, destitute of *bracteæ*. *Calyx* in four segments, ciliated. *Petals* four, concave. *Pod* compressed, broadish in proportion to its length.

#### EXPLANATION OF TAB. XVI.

1. Back of a magnified flower.
2. A stamen.
- 3, 3, Two pods, copied from a drawing done at Port Jackson.
4. A stipula magnified.

# Z O O L O G Y

O F

*N E W H O L L A N D,*

B Y

GEORGE SHAW, M. D. F. R. S.

&c. &c.

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THE FIGURES BY

*JAMES SOWERBY, F. L. S.*

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V O L. I.

L O N D O N:

PRINTED BY J. DAVIS:

PUBLISHED BY J. SOWERBY, NO. 2, MEAD PLACE, LAMBETH; TO BE HAD  
AT NO. 42, PATERNOSTER ROW, AND OF THE TOWN  
AND COUNTRY BOOKSELLERS.

M.DCC.XCIV.







*PSITTACUS EXIMIUS.*

## THE NONPAREIL PARROT.



## CHARACTER GENERICUS.

*Rostrum* aduncum: mandibula superiore mobili; cera instructa.

*Nares* in rostri basi.

*Lingua* carnosa, obtusa, integra.

*Pedes* scansorii.

*Lin. Syst. Nat. p. 139.*

## CHARACTER SPECIFICUS, &amp;c.

*Psittacus macrourus varius, capite gula pectore criffoque coccineis, dorso nigro flavo-viridi undulato, alis caudaque coeruleis.*

*Rostrum pallidum. Pedes nigricantes. Rectrices duæ intermedie virides.*

*PSITTACUS EXIMIUS.—Vivarium Naturæ. Tab. 93.*

## GENERIC CHARACTER.

*Bill* hooked. Upper mandible moveable.

*Nostrils* roundish, placed in the base of the bill.

*Tongue* fleshy, broad, blunt at the end.

*Legs* short. Toes formed for climbing, *viz.* two forward and two backward.

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## SPECIFIC CHARACTER, &amp;c.

Long-tailed variegated Parrot, with head, throat, breast and vent crimson; back black undulated with yellow-green, blue wings and tail.

*The two middle tail-feathers are green.*

NONPAREIL PARROT.—*Naturalist's Miscellany.* Pl. 93.

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THE vast Island or rather Continent of Australia, Australasia, or New Holland, which has so lately attracted the particular attention of European navigators and naturalists, seems to abound in scenes of peculiar wildness and sterility; while the wretched natives of many of those dreary districts seem less elevated above the inferior animals than in any other part of the known world; Caffraria itself not excepted; as well as less endowed

dued with the power of promoting a comfortable existence by an approach towards useful arts and industry.

It is in these savage regions however that Nature seems to have poured forth many of her most highly ornamented products with unusual liberality : where, in particular, she appears to have stationed birds, superior perhaps in elegance to those of most other climes ; and which display their richly-varied plumage in scenes unknown to mankind in a civilised state, and where their beauties can only be contemplated by the eyes of barbarians.

Amidst the number of these admired animals, the species represented on the annexed plate may justly claim a distinguished place. It may indeed be doubted whether any bird can exhibit a plumage more elegant, or colours of a nobler hue. These are so accurately expressed on the plate, as well as mentioned in the specific character, that it becomes unnecessary to particularise them here. It therefore remains only to add, that the size of this species is equal to that of the Pennantian, or Splendid Parrot, to which it is also nearly allied in shape and general disposition of colours.







London: Printed for G. B. Voss, 1860. Price 12s. M. Montague, Publisher.

*Didelphis pygmaea*

*DIDELPHIS PYGMÆA.*

## THE PYGMY OPOSSUM.



## CHARACTER GENERICUS.

*Folliculus abdominalis mammarum.*

## CHARACTER SPECIFICUS.

Didelphis hypochondriis prolixis volitans, cauda plano-pinnata lineari.



## GENERIC CHARACTER.

An abdominal *Pouch*, or *Follicle*, in which the mammae are situated, and which serves as a temporary residence for the young.

## SPECIFIC CHARACTER.

Opoessum with lateral flying membrane, and flatly-pinnated linear tail.



AMONGST the most curious quadrupeds yet discovered in the Antarctic regions, may be numbered the animal represented on the present plate; which (exclusive of its diminutive size, not exceeding that of a common domestic mouse) forms as it were a kind of connecting link between the genera of *Didelphis* and *Sciurus*, or *Opossum* and *Squirrel*. In the genus *Sciurus* we meet with a certain number of species which are furnished with an expandible skin on each side the body, by the assistance of which they are enabled to spring to a considerable distance, and to dart from tree to tree in a more rapid manner than the rest of their congeners. These particular kinds of *Squirrels* have been sometimes called *Petauristæ* or *Petauri*; and in the description of a New Holland animal of this tribe, figured in the NATURALIST'S MISCELLANY, I have taken the liberty of instituting a distinct genus for such species under the name of *PETAURUS*; disassociating them, on account of the very striking particularity of the lateral membrane, from the rest of the *Squirrel* tribe. It follows, therefore, that on similar principles the small flying opossum here represented should form a distinct genus also, and be separated from the other opossums. In the present instance, however, I have not disassociated this species from the other *Didelphides*; and as it is probably by far the most diminutive of the tribe, have distinguished it by a title expressive of its smallness. The opening of the abdominal pouch in this species is of a semilunar form, as expressed in the outlined

lined figure in the corner of the plate. On laying open by incision this receptacle, I found on each side a young one in the situation represented in the sketch, and very large in proportion to the parent animal: they were totally destitute of hair, and consequently had not approached to the period of their second birth. I should observe, that in such specimens as were not in a pregnant state, the mammae appeared extremely small, and were only four in number. The tongue in this animal is remarkably large and long, and of a flattened form. The hind feet (as in most other opossums) furnished with a round mutic or unarmed thumb or interior toe, and the two adjoining interior toes united (as in several other Australasian quadrupeds) under one common skin.







*Pitta* *coronata*

*PSITTACUS TERRESTRIS.*  
THE GROUND PARROT.



CHARACTER GENERICUS.

*Rostrum* aduncum: mandibula superiore mobili; cera instructa.

*Nares* in rostri basi.

*Lingua* carnosa, obtusa, integra.

*Pedes* scansorii.

*Lin. Syst. Nat. p. 139.*



CHARACTER SPECIFICUS, &c.

*Psittacus macrourus* viridis, nigro flavoque maculatus, capistro rubro, cauda flava fasciis numerosis nigris.

PSITTACUS TERRESTRIS.

*Museum Leverianum, p. 217. tab. 53.*

PSITTACUS FORMOSUS.—*Lath. ind. orn. p. 103.*



## GENERIC CHARACTER.

*Bill* hooked. Upper mandible moveable.  
*Nostrils* round, placed in the base of the bill.  
*Tongue* fleshy, broad, blunt at the end.  
*Legs* short. Toes formed for climbing; viz. two toes forward, and two backward.

---

## SPECIFIC CHARACTER, &amp;c.

Long-tailed green Parrot, spotted with black and yellow; the frontlet red; the tail yellow with numerous black bars.

## THE GROUND PARROT.

*Museum Leverianum, p. 219. pl. 53.*

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THE very elegant figure of this bird in the 5th Number of the Museum Leverianum, representing it in a posture in which some of its marks are less strikingly conspicuous, we have endeavoured in the present plate to exhibit its peculiar characters to the greatest advantage by a more expanded attitude of the wings and tail. With respect to its manners we can only repeat what has been

said in the work above referred to: viz. that it differs from all the rest of its tribe in never perching on trees, but constantly frequenting low and sedgy places, running along the ground in the manner of a rail. The legs and feet are uncommonly thin and delicate, and the claw on one of the back toes lengthened out, so as to resemble in some degree that of a lark. The size of this species is nearly that of a turtle.







## M E R O P S P H R Y G I U S.

## THE EMBROIDERED MEROPS.



## CHARACTER GENERICUS.

*Rostrum* curvatum, compressum, carinatum.

*Lingua* apice laciniata.

*Pedes* gressorii.

*Lin. Syst. Nat. p. 182.*



## CHARACTER SPECIFICUS.

Merops niger, flavo varius.



## GENERIC CHARACTER.

*Bill* curved, compressed, carinated, and sharp-pointed.

*Tongue* (generally) laciniated at the tip.

*Feet* gressorial, *i. e.* three toes forward and one backward;

and the three lower joints of the middle toe closely joined to those of the outmost.

---

#### SPECIFIC CHARACTER.

Black Merops varied with yellow.

---

THE bird figured in its natural size on the present plate is a species of *Merops*, or Bee-Eater; a tribe which appears to be peculiarly prevalent in the extensive regions of Australia, since more birds of this genus have been discovered than of any other, except the very numerous one of *Pfittacus*.

This species is readily distinguished by its remarkable colour from every other kind of *Merops* yet known. In its particular habits and manner of life it probably resembles the rest of its congeners; feeding chiefly on insects.





*Columba interotaria*

London: Published at 10s by John Murray, for J. & J. Bent, 1800.

## COLUMBA ANTARCTICA.

## THE ANTARCTIC PIGEON.



## CHARACTER GENERICUS.

*Rofirum* rectum, versus apicem descendens.

*Nares* oblongæ, membrana molli tumida semitectæ.

*Lingua* integra. *Lin. Syst. Nat. p. 279.*

---

 CHARACTER SPECIFICUS.

Columba plumbeo-grisea, subtus pallidior, occipite crista dependente ferruginea, remigibus caudaque nigricantibus, rectricibus fascia pallida.



## GENERIC CHARACTER.

*Bill* weak, slender, strait at the base, with a soft protuberance in which the nostrils are lodged.

*Tongue* entire.

*Legs* short: toes divided to the origin.

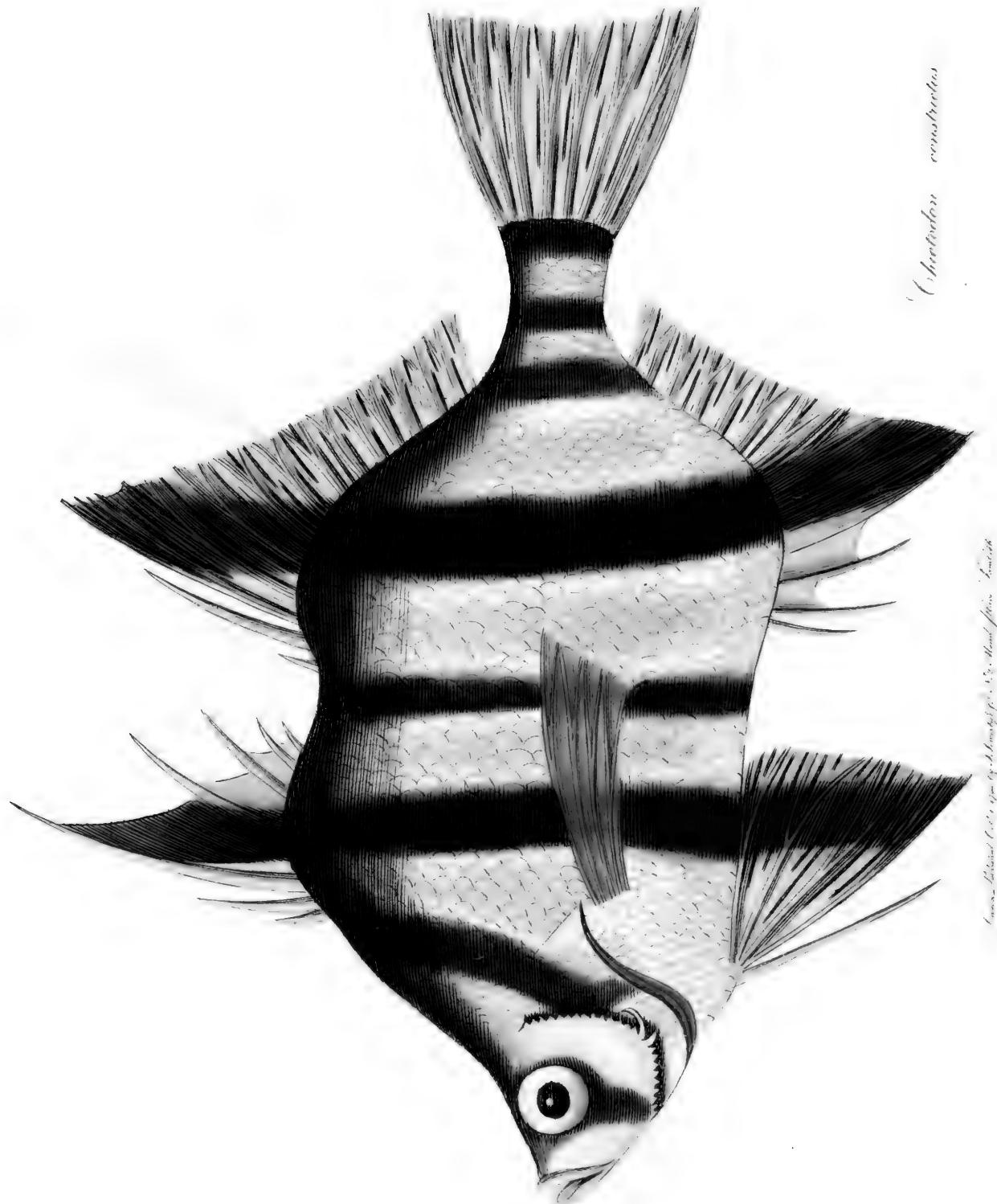
## SPECIFIC CHARACTER.

Greyish-lead-coloured Pigeon, paler beneath, with the wings and tail blackish; the latter marked by a pale bar.

---

THE Pigeon here represented appears to be a species hitherto undescribed. In size it nearly equals the *Columba Palumbus*, or common Wood-pigeon. Its most distinguishing character is the elegant semi-pendent occipital crest; a particular not often observable in birds of this genus.





*CHÆTODON CONSTRICTUS.*

## THE CONSTRICTED CHÆTODON.



## CHARACTER GENERICUS.

*Caput*: *Dentes* fetacei, flexiles, confertissimi, numerosissimi.

*Membr. branch.* radiis sex.

*Corpus pictum. Pinna dorfi anique carnosa squamosa.*

*Lin. Syl. Nat. p. 460.*



## CHARACTER SPECIFICUS.

Chætodon corpore medio constricto.



## GENERIC CHARACTER.

*Teeth* (in most species) fetaceous, flexible, very numerous.

*Branchiostegous membrane* with six rays.

*Body* commonly marked with bands.



## SPECIFIC CHARACTER.

Chætodon with the body constricted in the middle.

THE numerous genus Chætodon contains some species which, on account of their very near alliance in point of general appearance, are not easily discriminated from each other. The present species, however, differs so conspicuously from all others yet discovered, as to cause no difficulty in distinguishing it, even on the most transient view; the body contracting in diameter in a most singular manner in the middle. It is therefore from this circumstance that the specific character is taken.

It may, perhaps, be proper to add, that the Linnæan characters of the genus Chætodon by no means apply with sufficient exactness to all the known species; some of which, instead of slender and almost fetaceous teeth, are on the contrary furnished with uncommonly strong and broad ones.





*Isotomurus longicollis.*

*TESTUDO LONGICOLLIS.*

## THE LONG-NECKED TORTOISE.



## CHARACTER GENERICUS.

*Corpus* tetrapodium, caudatum, *testa* obtectum.

*Os* mandibulis nudis, edentulis.

*Lin. Syll. Nat. p. 350.*



## CHARACTER SPECIFICUS.

*Testudo* ovata glabra, collo longissimo.



## GENERIC CHARACTER.

Body four-footed, tailed, covered with a shell. Mouth consisting of naked toothless mandibles.



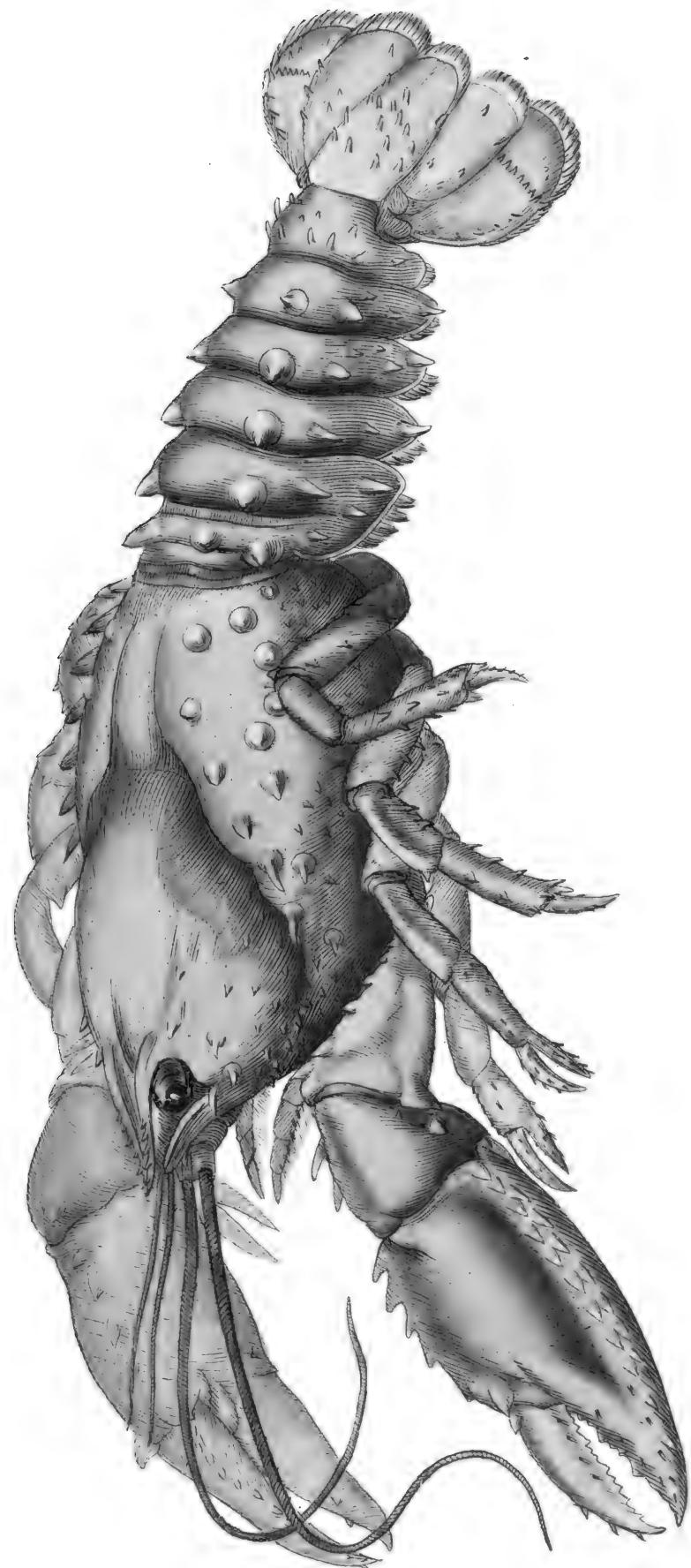
## SPECIFIC CHARACTER.

Smooth ovate Tortoise with extremely long neck.

---

THE Tortoise here represented is a species never before figured or described. The plate expresses the natural size of the specimen from which the figure was taken. Its colour on the upper parts is a deep olivaceous brown. The shell is nearly smooth, but in some parts bears a resemblance to the grain of common black leather. The head is smooth. The neck extremely long, and (as it should seem) always exerted: its upper surface is marked with oval granulations, which give it an extremely serpentine appearance. The fore feet are short and tetradactylous; softly scaled, and, as it were, pinnated by a continuation of skin. The hind feet are of a similar structure, but somewhat longer and more widely pinnated. The claws on all the feet resemble those of birds. The under surface of the animal is of a pale whitish yellow; that of the shell more deeply so, and stained at all the junctures with black-brown, so as to form so many crossings of that colour. The tail is so extremely short as scarce to deserve the name, being merely a slight prolongation, or rather rising of the skin.





*Crustacean larva*

## C A N C E R S E R R A T U S.

## T H E S E R R A T E D L O B S T E R.



## C H A R A C T E R G E N E R I C U S.

*Pedes* octo (rarius sex aut decem); *insuper manus* duæ *chelatæ*.

*Palpi* sex inæquales.

*Oculi* duo distantes, plurimis pedunculati; elongati, mobiles.

*Mandibula* cornea, crassa.

*Labium* triplex.

*Cauda* articulata, inermis.

*Lin. Syst. Nat. GMEL. p. 2963.*



## C H A R A C T E R S P E C I F I C U S.

*Cancer* macrourus, chelis ferratis, cauda utrinque trifarium muricato-spinosa.



## GENERIC CHARACTER.

*Feet* commonly eight (in some species six or ten), besides two chelæ.

*Palpi* or feelers fix, unequal.

*Eyes* two, distant, in most species footstalked; elongated, moveable.

*Mandible* thick.

*Lip* triple.

*Tail* articulated, unarmed.

## SPECIFIC CHARACTER.

Elongated Cancer with ferrated chelæ, and tail muricated on each side by a triple row of sharp protuberances.

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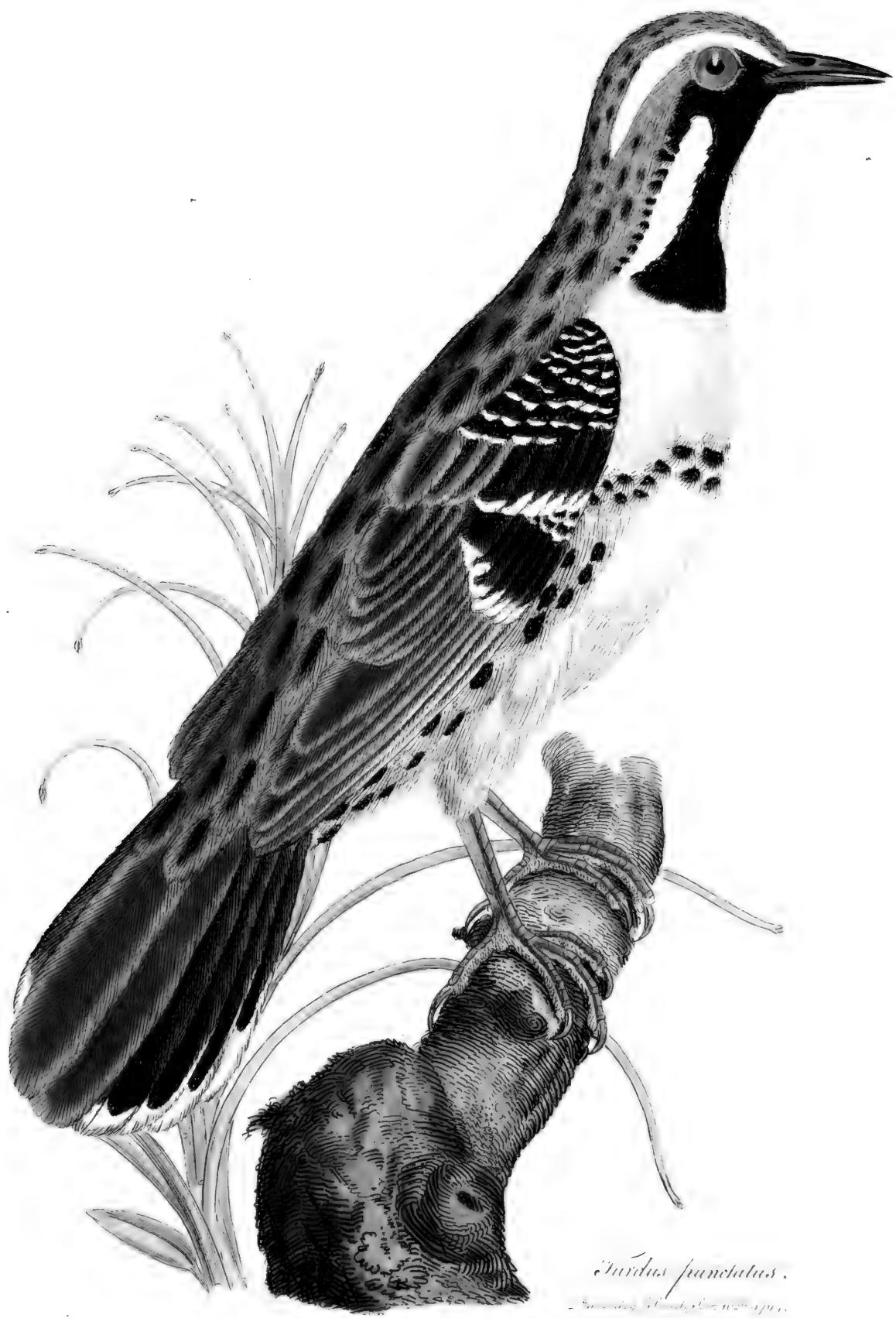
THIS curious animal is about the size of the common lobster. The antennæ, as in that species, are smooth and setaceous. The four smaller ones (which are united at the base) are about an inch and half long. The thorax is smooth on the upper part, but on the ridge of the sides is very strongly muricated with moderately distant and extremely stout spines, some of which are so short and obtuse as to be rather tubercles than spines.

The chelæ or large claws, which in this species are pretty exactly equal, are ferrated on the edges by a double series of sharpened protuberances. The legs are also ferrated proportionally in the same manner. The tail (which forms the principal specific character) is most strongly muricated on each side with a treble row of large, pointed tubercles, between which are disposed here and there a few smaller ones, so as to invade a little the exact series in which the principal ones are disposed. The colour of this animal (so far as can be collected from the specimens preserved in spirits) is mostly red, or like that of a boiled lobster; but blue on the fides of the claws and some other parts.

Its place in the genus should be next to the *Cancer Homarus*, to which it is most allied, though differing widely as a species.







*Turdus punctatus.*

*Engraving by J. G. Keulemans.*

## TURDUS PUNCTATUS.

## THE SPOTTED-SHOULDERED THRUSH.



## CHARACTER GENERICUS.

*Rostrum* tereti-cultratum : mandibula superiore apice deflexo, emarginato.

*Nares* nudæ, superne membranula semitectæ.

*Faux* ciliata.

*Lingua* lacero-emarginata.

## CHARACTER SPECIFICUS.

Turdus griseus, pectore plumbeo, humeris nigris albo punctatis.



## GENERIC CHARACTER.

*Bill* strait, obtusely carinated at top, bending a little at the point, and slightly notched near the end of the upper mandible.

*Nostrils* oval and naked.

*Tongue* slightly jagged at the end.

*Middle Toe* connected to the outer as far as the first joint.

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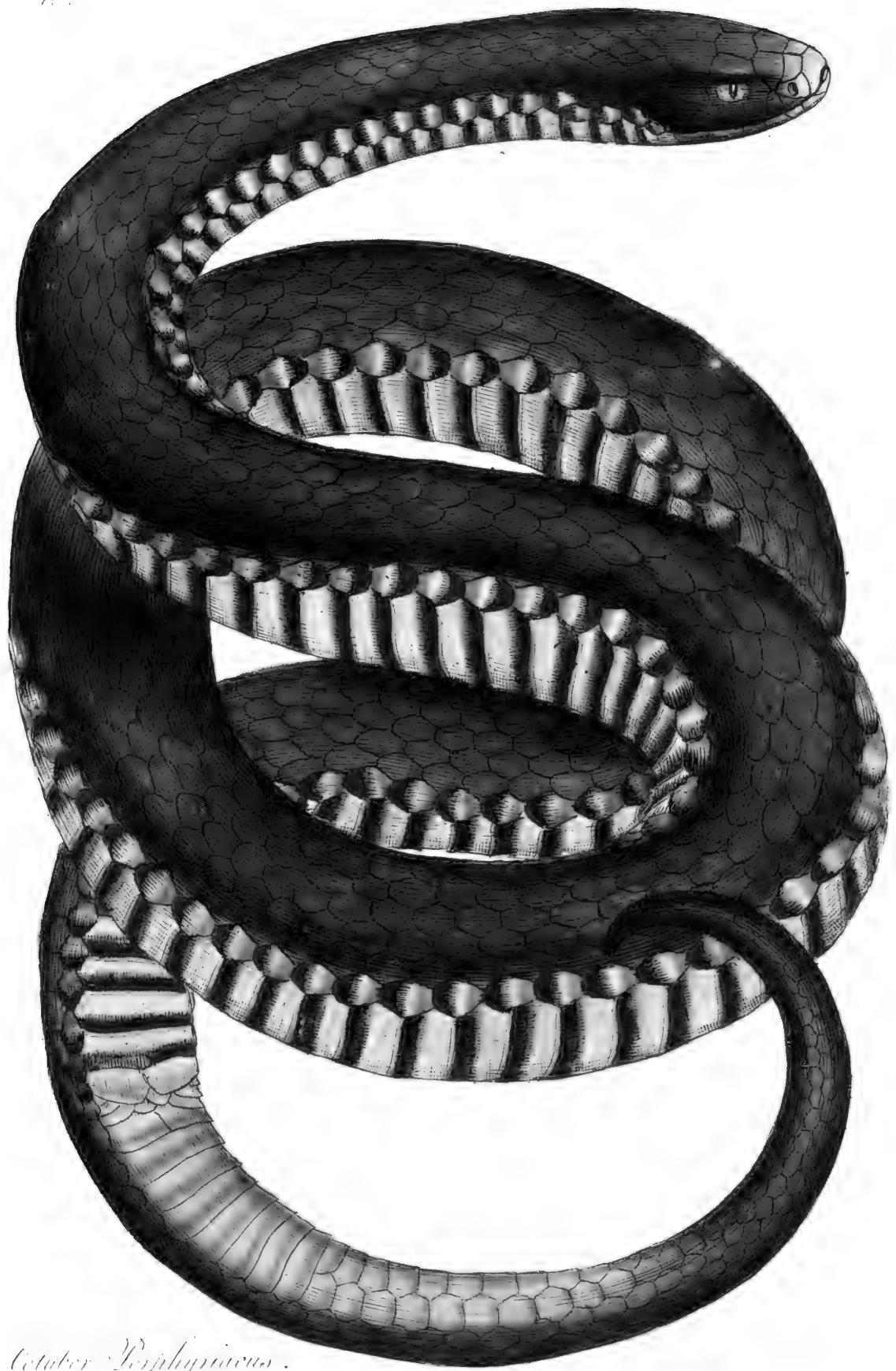
#### SPECIFIC CHARACTER.

Greyish-brown Thrush dashed with blackish; with lead-coloured throat, and black shoulders speckled with white.

---

THE species of Thrush here represented is figured in its natural size, and is probably the male bird. The supposed female differs in having the shoulders of a greyish colour, minutely speckled with black and white. It also wants the black band on each side the throat, as well as the transverse one at the bottom of the breast. The patches on the sides of the neck are likewise of a pale yellow. In other respects it resembles the male.





*Crotalus Viridis.*

## T A B. X.

## COLUBER PORPHYRIACUS.

## THE CRIMSON-SIDED SNAKE.



## CHARACTER GENERICUS.

*Scuta* abdominalia.

*Squamæ* subcaudales. *Lin. Syst. Nat. p. 275.*

## CHARACTER SPECIFICUS.

Coluber nigro-violaceus, lateribus abdomineque purpureis, scutis nigro marginatis.

*Scut. abdom.* 188. *Scut. anal.* 7. *Squam. subcaud.* 45.



## GENERIC CHARACTER.

*Scuta* or semicircular scales under the abdomen.

*Divided Scuta* or large alternate scales under the tail.



## SPECIFIC CHARACTER.

Violet-black Snake, with the abdomen and sides crimson; the scuta margined with black.

*Abdominal Scuta* 188. *Anal.* 7. *Subcaudal Scales* 45.

---

THIS beautiful Snake, which appears to be unprovided with tubular teeth or fangs, and consequently not of a poisonous nature, is about three, and sometimes four feet in length. Its colour on the upper parts is a glossy violet-black; the sides of an elegant deep crimson, which on the abdomen declines into a paler tinge, or more approaching to whitish; while the scuta or broad semi-circular scales which compose this part, are each deeply bordered with black. The alternate scales or divided scuta beneath the tail are of a lead-colour, and the largest series of the crimson side-scales are tipped with black; which gives them an appearance peculiarly elegant. This Snake may be considered as a species hitherto undescribed.

1903  
1904  
1905



Sciurus sciureus. (Saimiri sciureus of Linnaeus.)

*DIDELPHIS SCIUREA.*

## THE SQUIRREL OPOSSUM.



## CHARACTER GENERICUS.

Folliculus abdominalis mammarum.



## CHARACTER SPECIFICUS.

Didelphis hypochondriis prolixis volitans, supra cana,  
subtus nivea, cauda villossissima prehenfili, apicem  
versus nigra.



## GENERIC CHARACTER.

An abdominal *pouch* or *follicle* in which the mammæ are situated, and which serves as a temporary residence for the young.



## SPECIFIC CHARACTER.

Grey Opoftsum, snow-white beneath, with lateral flying membrane and extremely villous prehensile tail, black towards the extremity.

---

IN its general aspect this animal has so much the appearance of a squirrel, that on a cursory view it might readily pass for such. A more exact inspection into its characters will however evince it to be a genuine Opoftsum. Its size is nearly that of a common squirrel, but on account of the fulness and particular growth of the fur (which, like that of the Lemur, grows in a sub-erect manner), it appears somewhat larger. Its general colour is exactly that of the *Sciurus cinereus* or American Grey Squirrel. A black stripe passes over each eye along the top of the head: under each ear is a black patch surrounded with white; the hair on the white part having a more soft or flocculent appearance than the black. The tail (which is prehensile) is of the same colour with the body for about half its length, the remainder being black. It is very full of hair, and tapers a little towards the extremity, but without any acute termination. The eyes are black, round, and full. The ears round, shortish, and very thin. The whole under side of the animal is milk-white. The upper parts of

the feet are also white, and the edge of the lateral or flying membrane, which extends from the fore feet to the hind, is edged with a blackish border as in the flying squirrels. The abdominal pouch is of considerable size, and is situated, as in other opossums, on the lower part of the abdomen. The hind feet are furnished with a rounded, unarmed, or mutic thumb. Nothing can exceed the softness and delicacy of this animal's fur, which is, if possible, still finer than that of the *Petaurus* of New Holland described in the Naturalist's Miscellany, and to which indeed, though very greatly inferior in size, as well as widely differing in colour, it bears a striking affinity. I must also add, that I have great reason for supposing the *Petaurus* to be furnished with an abdominal pouch; a particular which I have not yet been able to ascertain; no living specimens having been yet imported. The Opossum now described is a nocturnal animal, and continues torpid during the greatest part of the day, but during the night is full of activity. In this, as well as in other Australian *Didelphides*, the two toes on the hind feet nearest the thumb or rounded one, are connate, or both conjoined under one common skin. The plate represents it nearly in its natural size.







*D I D E L P H I S M A C R O U R A.*

## THE LONG-TAILED OPOSSUM.



## CHARACTER SPECIFICUS.

Didelphis hypochondriis prolixis volitans, supra cinerea,  
subtus albida, cauda longissima attenuata nigra.



## SPECIFIC CHARACTER.

Ash-coloured Opossum, whitish beneath, with lateral flying membrane and very long slender black tail.



THIS also is one of those species which are furnished with an expansile lateral membrane. It is principally distinguished by the length of its tail, and is represented in its natural size. In the structure of the feet it perfectly agrees with the other Australian Opossums; the two interior toes of the hind feet being united under one common skin.



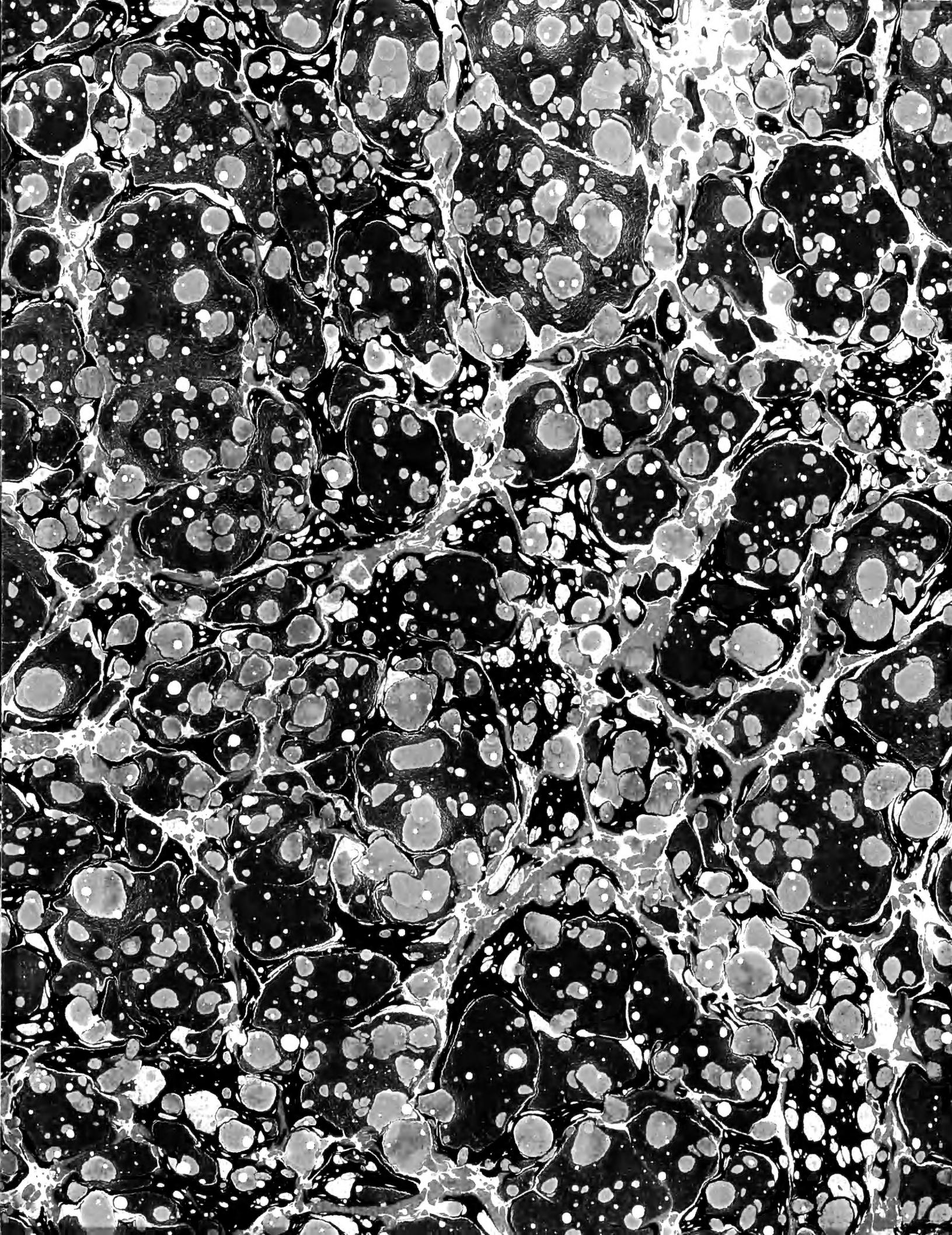




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